

Listing of the Claims

1. **(withdrawn)** A system for manufacturing optical fiber, comprising:
 - (a) a pregobbing apparatus having a furnace having a first temperature profile, the pregobbing apparatus adapted to provide a pre-optimized tip shape on the optical fiber preform, and
 - (b) a draw furnace having a second temperature profile which is substantially equal to the first temperature profile, the draw furnace adapted to draw optical fiber from the preform having the pre-optimized tip shape.
2. **(withdrawn)** The system of Claim 1 wherein the pregobbing heating furnace includes an induction heater.
3. **(withdrawn)** The system of Claim 1 wherein the pregobbing heating furnace and a draw apparatus utilized to draw fiber from the preform each include an induction heater.
4. **(withdrawn)** The system of Claim 1 wherein the pregobbing furnace includes a temperature between about 1800 °C and 2000 °C.
5. **(withdrawn)** The system of Claim 1 wherein the pregobbing furnace includes a temperature between about 1900 °C and 1950 °C.
6. **(withdrawn)** The system of claim 1 wherein the pre-optimized tip shape includes a tip taper having a ratio of tip length to radius change over the tip length of between about 5 to about 12.
7. **(withdrawn)** The system of claim 1 wherein the pre-optimized tip shape includes a tip taper having a ratio of tip length to radius change over the tip length of between about 6 to about 9.

8. **(withdrawn)** A system for manufacturing an optical fiber preform, comprising:

a pregobbing furnace adapted to heat the optical fiber preform and cause a glass to be removed, the pregobbing furnace having a temperature profile that is substantially equal to a temperature profile of a draw furnace utilized in a subsequent process to draw fiber from the preform.

9. **(withdrawn)** A system for manufacturing an optical fiber preform, comprising:

a pregobbing furnace adapted to heat the optical fiber preform and cause a glass to be removed to form a pre-optimized draw tip on the preform, the pregobbing furnace having a temperature profile substantially equal to a temperature profile of a separate draw furnace to draw fiber from the preform.

10. **(previously presented)** A method for manufacturing an optical fiber preform, comprising the steps of:

(a) heating a consolidated optical fiber preform within a chamber of a heating furnace having a first temperature profile of a hot zone of the heating furnace to allow a gob to drop under the influence of heat and gravity,

(b) removing additional glass from the preform in the heating furnace until a draw tip having a pre-optimized tip shape is formed, and

(c) transferring the preform to a draw furnace of a draw apparatus wherein a second temperature profile of a hot zone within the draw furnace is substantially identical to the first temperature profile.

11. **(canceled)**

12. **(previously presented)** The method of claim 10 wherein the step of heating is accomplished by at least one induction coil heating the preform.

13. **(previously presented)** A method for manufacturing an optical fiber preform, comprising the steps of:

- a) heating a consolidated optical fiber preform within a chamber of a heating furnace having a first temperature profile of a hot zone of the heating furnace to allow a gob to drop under the influence of heat and gravity,
- b) removing additional glass from the preform in the heating furnace until a draw tip having a pre-optimized tip shape is formed wherein the pre-optimized tip shape includes a tip taper having a ratio, defined as tip length divided by radius change over the tip length, of between about 5 to about 12, and
- c) transferring the preform to a draw furnace of a draw apparatus wherein a second temperature profile of a hot zone within the draw furnace is substantially identical to the first temperature profile.

14. (previously presented) A method for manufacturing an optical fiber preform, comprising the steps of:

- a) heating a consolidated optical fiber preform within a chamber of a heating furnace having a first temperature profile of a hot zone of the heating furnace to allow a gob to drop under the influence of heat and gravity,
- b) removing additional glass from the preform in the heating furnace until a draw tip having a pre-optimized tip shape is formed wherein the pre-optimized tip shape includes a tip taper having a ratio, defined as tip length divided by radius change over the tip length, of between about 6 to about 9, and
- c) transferring the preform to a draw furnace of a draw apparatus wherein a second temperature profile of a hot zone within the draw furnace is substantially identical to the first temperature profile.

15. (previously presented) The method of Claim 10 wherein the step of heating includes heating the heating furnace to a temperature between about 1800 °C and 2000 °C.

16. (previously presented) The method of Claim 10 wherein the step of heating includes heating the heating furnace to a temperature between about 1900 °C and 1950 °C.

17. **(previously presented)** A method of making an optical fiber preform, comprising the steps of:
prior to drawing optical fiber from the preform in a draw furnace, heating a tip of the preform in a pregobbing heating furnace separate from the draw furnace to form a pre-optimized draw tip on the preform, said pre-optimized draw tip after being formed having a tip taper with a ratio, defined as tip length divided by radius change over the tip length, of between about 5 to about 12, and causing a temperature profile of a hot zone of the pregobbing furnace to be substantially equal to a temperature profile of a hot zone of the draw furnace.

18. **(canceled)**

19. **(previously presented)** The method of claim 17 wherein the pre-optimized draw tip after being formed includes a tip taper having a ratio, defined as tip length divided by radius change across the tip length, of between about 6 to about 9.

20. **(previously presented)** A method for manufacturing an optical fiber, comprising the steps of:
heating a consolidated optical fiber preform within a pregobbing apparatus including an induction furnace having a first temperature profile of a hot zone of the pregobbing apparatus to form pre-optimized shape preform tip, and
transferring the preform to a draw apparatus including an induction furnace and drawing optical fiber therefrom, the draw apparatus having a second temperature profile of a hot zone of the draw apparatus substantially equal to the first temperature profile.

21. **(previously presented)** A method for manufacturing an optical fiber, comprising the steps of:
heating a plurality of consolidated optical fiber preforms within a plurality of pregobbing apparatus, each apparatus including an induction furnace having a first temperature profile in a hot zone thereof to form pre-optimized shape preform tip on each of the plurality of preforms, and
transferring the plurality of preforms to a plurality of draw apparatus, each including an induction furnace and drawing optical fiber therefrom, the plurality of draw

Appl. No.: 09/675,352
Amdt. Dated: 02/24/04
Reply to Office Action of: 01/08/2004

furnaces each having a second temperature profile in a hot zone thereof substantially equal to the first temperature profile.

22. **(original)** The method of claim 21 wherein there are a lesser number of pregobbing apparatus than draw apparatus.

Claims 23-26. **(canceled)**